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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,247	03/20/2007	Etienne Duguet	1032013-000137	6398

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EXAMINER

MICALI, JOSEPH

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,247	Applicant(s) DUGUET ET AL.	
	Examiner Joseph V. Micali	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

The amendments/argumentation filed on July 13th, 2010 have been entered. Claims 1-7 remain pending and presented for examination on the merits, as claims 8-23 are withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 4-5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,528,167 by O’Gara.**

With respect to claim 1, O’Gara is drawn to porous hybrid particles with organic groups removed from the surface (**title**). Specifically, O’Gara discloses mesoscopic particles (< 1 micron) comprised of silica (**column 3, lines 35-55**), wherein the surface may be divided into different zones containing different, exclusive functionalized groups (**column 3, line 63, and column 4, line 60 - column 5, line 50**). For example, in the cited sections, O’Gara discloses a maximum of 50% of the silica surface being able to react with the trimethylsilyl compound for further surface modification (no longer any OH groups in this section due to chemical conversion), thus leaving the rest of the silica (i.e., unmodified section) with a surface group of OH. Furthermore, with respect to the zone limitations, the instant claim language does not recite continuous zones, only that the surface is divided up into two zones, i.e., a zone with group F1 only and a zone with group F2 only. The disclosure of O’Gara reads on such claim language.

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With regards to applicant's newly added limitation, such language ("regionally distinct") is entirely too broad and does not impart any specificity to the claim that wasn't already present in the previous claim language.

With respect to claims 4-5 and 7, O'Gara discloses the inorganic material being the mineral oxide of silica, in addition to alumina and titanium oxides (**column 3, lines 35-55**).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,528,167 by O’Gara.

With respect to claims 2-3, O’Gara is drawn to porous hybrid particles with organic groups removed from the surface (**title**). Specifically, O’Gara discloses mesoscopic particles comprised of silica (**column 3, lines 35-55**), wherein the surface may be divided into different zones containing different, exclusive functionalized groups (**column 3, line 63, and column 4, line 60 - column 5, line 50**). For example, in the cited sections, O’Gara discloses a maximum of 50% of the silica surface being able to react with the trimethylsilyl compound for further surface modification (no longer any OH groups in this section due to chemical conversion), thus leaving the rest of the silica (i.e., unmodified section) with a surface group of OH.

Thus, the disclosure of O’Gara overlaps the claimed range of at least 5% in claim 2 and at least 10% in claim 3, as O’Gara discloses a range essentially of 0-50% (**column 3, line 60**). MPEP 2144.05 [R-5] states, “In the case where the claimed ranges ‘overlap or lie inside ranges disclosed by the prior art’ a *prima facie* case of obviousness exists.”

7. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Pub. No. 2003/0031438 by Kambe et al.

With respect to claims 1 and 6, Kambe discloses several types of nanoscale particles of inorganic material, including a metal stable in aqueous medium, such as silver (**paragraphs 0113 and 0115**). Furthermore, Kambe discloses that such particles can be surface-modified/functionalized (**paragraphs 0079 and 0092**) and suggests the possibility of multiple,

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different linker molecules on the particles for the situation of a plurality of different polymers used (**paragraph 0078**). Kambe also discloses selecting a specific portion of the inorganic particle surface for such linker molecules, i.e. a zone (**paragraph 0078**).

As such, the instant application recites two different groups on the surface of the nanoscale particle, while Kambe discloses one or more groups on the surface of the nanoscale particle. If suggestion or motivation for such an instance of obviousness is required, one having ordinary skill in the art at the time the invention was made would have selected modifying the particle surface of Kambe with two different groups for the purpose of producing a particle that can react with multiple sources (**Kambe, paragraph 0078**).

Response to Arguments

8. Applicant's arguments filed on July 13th, 2010 have been fully considered but they are not persuasive.

With regards to applicant's argumentation, applicant chiefly argues against the prior art of record (O'Gara) on the issue of the regionally distinct zones of different, exclusive groups. However, examiner maintains usage of O'Gara in reading upon the broadest, reasonable interpretation of such broad claim language. In the independent claim, there is no specificity to what a group is defined as, how a zone is designated (whether it is simply cut along an equatorial line [half and half] or the two zones can be in some type of design [spots on a dalmatian, alternating stripes, etc]), and as for the newly added limitation, "regionally distinct" imparts no more patentably than what was previously claimed, i.e. a surface divided into two zones. Two exclusive zones already implies a distinction of zones based on position or region; it's simply the

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breadth of how said zones can be set that the claim does not address. As such, applicant's argumentation on the whole is not persuasive, as applicant solely argues such a point.

Conclusion

9. Claims 1-7 are rejected.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph V. Micali whose telephone number is (571) 270-5906. The examiner can normally be reached on Monday through Friday, 7:30am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry A. Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph V Micali/
Examiner, Art Unit 1793

/J.A. LORENZO/
Supervisory Patent Examiner, Art Unit
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